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ABSTRACT

A rationale and methodology for the use of student perceptions in educational decision making, and specifically in the area of curriculum, are presented. Four sections of the paper present ways in which student perceptions may be used: to describe and compare school environments, to compare perceptions of student subgroups within the same environment, and to explore relationships between the behavior of participants and the characteristics of the environment. Examples are drawn from three major studies involving over 11,000 students in public and alternative schools in Massachusetts. Results of the survey indicate that generally students viewed their schools as discriminatory, not challenging, and deficient academically. Students felt burdened by extra-school priorities and ambivalent about class attendance. Highly rated schools in the survey were those where teachers responded to students by observing their actions and seeking out their concerns. In comparing subgroup views, involved and marginal students, and students and teachers were examined. Members of both subgroups differ significantly in the way they perceive their school environment. Finally, the survey measured principal and teacher behaviors. Evidence suggests that principals who are considerate of teachers create school environments which students perceive as involved, humane, and friendly. A final section presents a method for planning which considers three dimensions of the curriculum: expressed, implied, and emergent (See SO 011 675). (KC)

THINKING ABOUT OUR SCHOOL: THE ENVIRONMENTAL PERCEPTIONS APPROACH TO CURRICULUM INQUIRY AND IMPROVEMENT

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THINKING ABOUT OUR SCHOOL: THE ENVIRONMENTAL PERCEPTIONS APPROACH TO CURRICULUM INQUIRY AND IMPROVEMENT

Something is missing when teachers talk about curriculum. In lounges or lunchrooms, teachers grumble about what cannot change or what cannot be done, then turn to matters like houses, cars, or sports--preoccupations distantly related to everyday school life that often reflect a gnawing sense of low self-esteem and professional status. The fleeting, September excitement and commitment that come from feeling that one is responsible and capable of curriculum improvement rapidly fade as the school year progresses. In those few places where school settings permit dialogue among adults, teachers also prepare for negotiations or grievances; and problematic situations come to be viewed as the fault of someone rather than as a consequence of processes characterizing a particular social organization. In such immobilized environments, conflict is seen as the only avenue to curriculum change, and conflict avoidance with its terrible indifference and lack of commitment becomes a realistic way of life for many administrators and teachers.

The strained quality of curriculum dialogue in schools is not the fault of teachers or administrators. It reflects both the way educators think about curriculum and the limits schools place on teachers' responsibilities for curriculum decision-making. In schools, current conceptions of curriculum consign the teacher to a peripheral role; and the process of curriculum change requires teacher representation only as a matter of form or courtesy, not substance. Important curriculum decisions are made by people who are far removed from the day-to-day reality of the classroom, and who are without current data about individual students. In effect, teachers perceive that they are usually in a position of accepting or rejecting what others have decided for them. This passive or reactive position is reinforced by the way

the school schedule isolates teachers from each other and from principals, leaving them to cope individually or in small interest groups with their curriculum difficulties, and to celebrate silently their successes. Isolated, in passive or reactive positions, teachers and administrators engage in tired or dispirited curriculum dialogues that allow curriculum practices that could be reformed to persist in a pre-reflective, dreamlike state where they loom as the unshakeable givens of school life.

If the school curriculum is to improve, clearly the way school practicioners talk and think about curriculum needs to be expanded[1]. Ways of thinking about curriculum are necessarily complex and manifold. This paper is concerned about seeking a practical starting point for the improvement of curriculum and curriculum dialogue in schools. We believe that schools can be made better if teachers expand their thinking about curriculum to incorporate the use of student perceptions concerning curriculum conditions. We do not argue that teachers should only consider student perceptions, or that everywhere the quality of dialogue is poor in schools. Rather, noting that the systematic consideration of student perceptions is now missing in most schools, we propose that by acting to learn what students think about the conditions designed for their learning, teachers will move toward a position of responsibility for curriculum.

This paper will be presented in four sections. First, an argument for the use of student perceptions is advanced. Second, a process or methodology for collecting student perceptions is described. Third, four ways for interpreting and using student perceptions are proposed, with examples drawn from three studies involving over 11,000 students. Fourth, a way of thinking about curriculum that includes student perceptions as a part of the meaning is explained.

The Importance of Student Perceptions

Educators need to consider student perceptions toward curriculum conditions for two fundamental reasons (which will be considered in turn). First, student perceptions are important because the way that students perceive their school environment influences the way they behave or learn at school. Second, student perceptions provide important information about curriculum conditions that can be used by educators to improve the connection between the student and the curriculum. In short, by considering student perceptions of curriculum conditions affecting their learning, teachers can develop an increased concern for the quality of the learning experience, and an increased ability to create curriculum conditions that help students learn.

Major learning theorists and psychologists agree with little dispute that selective aspects of an educational environment have special power to shape immediate behavior and to influence lasting patterns of conduct.[2] To make sense of environmental conditions, a person constantly refines ways to differentiate and integrate environmental data. He constantly searches for aspects of similarity and difference between events so he or she can better anticipate and adapt to a situation. Given this image of conceptual functioning[3], a teacher's role is to provide curriculum conditions that encourage the learner to reconsider, reorder or extend existing cognitive (or affective or psychomotoric) means for understanding and acting in the world. In other words, what students learn depends crucially on the way they currently perceive the world, for it is the organization of these perceptions they must refine or alter on the basis of new information or acquired skills[4].

In this context, the multiple meanings of the term "perception" can be more clearly understood. Strictly speaking, a perception refers to information about external objects or environmental processes gained through the use of the

senses and the conceptual system. In a broader sense, a perception connotes an immediate judgment or insight about the nature of the learning environment, based on observations and subtle personal discriminations that lead to choice and action. In the present paper, both meanings apply. A perception of learning environment refers to information about a school as "read" through the conceptual lens of the student. The result of perceptions is, eventually, action in a corresponding direction.

Individuals grow in their ability to discover and refine meaning in their worlds, and act based on their developing perceptions of their immediate environments. Perceptions can limit behavior because they have acted like blinders leading the person to look only in certain habitual directions for clues as to appropriate conduct. But such perceptual limits also enable one to act by screening out seemingly irrelevant information that might overload decision-making. Behavior can then proceed from a confident, secure base guided by information from perceptions that have been established by previous habits, skills and experiences.[5] In this sense, perceptions are related to personality growth or character formation since enduring behavior patterns are built on the ability to perceive imputed and actual similarities and differences in environments. In sum, because students act in response to what they perceive, teachers committed to shaping environments for learning should pay careful, systematic attention to student perceptions of curriculum conditions.

Second, student perceptions are important because they provide clues as to how different environmental dimensions affect the conduct of different individuals. Unfortunately, some learners are uncomfortable strangers in environments that don't connect with their inchoate ways of finding and producing value and meaning in the world. These learners on the margins of school

environments experience their school surroundings and curriculum activities as seriously disturbing, blocking or rewarding their attempts to learn. Like those teachers who feel cut off from curriculum decision-making, these marginal pupils tend to avoid (or deny the importance of) active participation in the social system and learning activities of the school. Such pupils are "marginal": first in the sense that they are not fully involved in the mainstream of school life and, second, in the sense that they are learning and contributing only a fraction of what they are capable and thus working with only a portion of their potential at school.

On a day-to-day basis, the marginal learners in a teacher's classroom provide the most pressing argument for teachers to consider student perceptions.[6] When the behaviors of two groups of students (one involved and productive, one disconnected and dissatisfied) differ, it is likely that they will consistently perceive their learning environment in different ways, as well. In plain words, the conduct of marginal or involved students can be better explained and assisted if their perceptions of curriculum conditions are shared with teachers. If student perceptions indicate that a learning environment is not serving them adequately, their perceptions of the specific environmental conditions which affect them can provide a starting point for the inquiry into what can be done about the mismatch between the setting and the student. On the basis of the results of this inquiry, learning environments can be altered to match the needs and strengths of students. In addition, learning environments that more effectively induce students to confront and alter their own limiting perceptions and self-defeating behaviors can be created. Finally, curriculum conditions that support and extend productive learning can be reinforced.

In brief, when teachers familiar with student behavior gain access to student perceptions, the impact of the learning environments they have created becomes more clear to them. Without student perceptions, educators interpret

student actions on the basis of the limited information their perceptions as teachers provide. As a result, too often the individual is blamed for his problems at school. From this perspective, most efforts to assist the learner on the margins attempt to fit that individual back into the very setting that is contributing to his difficulties. When student perceptions of the learning environment are considered an important shift in perspective occurs, to a focus on the connection or interaction between the learner and the curriculum. This shift opens the way for cooperative action by teacher and student to provide meaningful and productive curriculum for the individual. In sum, the strength of an approach using student perceptions to investigate learning environments is that it allows both teachers and students to convert environments producing negative limits for behavior into settings that act as positive agencies encouraging learning.

Assessing Curriculum Conditions Using Student Perceptions

The practical question of how to measure and interpret student perceptions of curriculum conditions has been a subject for empirical research since 1938, when the need-press model of Henry Murray was introduced.[7] This section of our paper will briefly trace the lineage of perceptual research leading to our work, and then provide a summary of data collection methods used in the studies to be reported in the following section of the paper.

Murray's model for interaction between person and environment (which derived from the field theory of Lewin) regards the person's behavior as the outcome of an interaction between his/her "needs" and the environmental "press" which acts upon him/her. Need, as defined by Murray, refers to a hypothetical force within an individual which determines his or her movements toward or away from stimulus situations. Press is essentially the stimulus situation

within the total environment to which the individual both attends and reacts. Press is further defined as an aspect of the total environment which, depending on the perception of the individual, either helps or hinders need-oriented behavior.[8]

Two major research approaches have emerged from Murray's conceptualizations of the influence of environment on behavior. These approaches correspond to two categories of environmental press he named Alpha press and Beta press. Alpha press refers to the actual press that exists, as far as scientific inquiry can determine it. Many noted methods for measuring classroom environments use Alpha press.[9] Beta press may be defined as the participant's own interpretation of the environmental events or conditions that he or she perceives. Since, as Bloom notes, an educator is a captive of students' perceptions of the school and learning task, several researchers have chosen the measurement of Beta press as a means to gather needed information about the way a school influences learners.[10]

In 1956, Stern, Stein and Bloom developed a system of interaction constructs based on Murray's need-press taxonomy.[11] From this approach, George Stern constructed the Activities Index (an instrument designed to assess individual needs) and the High School Characteristics Index (measuring aspects of the academic environmental press at the high school level). The purpose for these instruments was to provide a set of parallel devices for measuring person-situation parameters through the use of Beta press. When used in concert, the Activities Index and the Characteristics Index are designed to provide comparable data relating properties of educational systems (press) to personality characteristics of students (needs).[12]

From these beginnings, parallel series of studies at the college, high school and elementary levels have used the collective perceptions of students to describe the climate of their schools. Robert Pace's research at the college and university level[13] and the research led by Robert Sinclair and his colleagues

at the elementary level[14] have demonstrated, among other findings, that research instruments measuring Beta press can be developed for elementary and college learners with acceptable reliability and validity levels.

Due in part to criticisms of Stern's work at the high school level,[15] recent research has not emphasized the effort to match a student's perceptions to his/her individual personality. Instead, efforts have continued to focus on using the collective perceptions of participants to determine the nature of curriculum conditions.[16] This direction is promising, since recent research on Beta press measurement has suggested that the most reliable and valid Beta press instruments measure differences among the aggregate responses of groups.[17] A further line of research seeks to study the consequences of various combinations of environmental variables on student outcome variables like achievement.[18] Our own work now emphasizes the comparison of the perceptions of two distinct populations (teachers/learners, marginal learners/involved learners, blacks/whites) in the same environments. These studies have immediate implications for classroom teachers, who can use the incongruity or differences among group perceptions as a starting point for curriculum dialogue and decision-making.

In sum, the methodology for collecting student perceptions has been continually refined by researchers during the last forty years. Reliable and valid instruments for measuring consensual Beta press have been developed for research purposes, and are ready for wider use in self-study projects by schools.

The collection and analysis of student perceptions toward selected variables of their school environment can easily be accomplished at the school level. To tap perceptions, pupils are presented statements about conditions and happenings at school. In general, students spend approximately forty-five minutes in classroom groups responding to survey statements administered by a trained administrator other than the teacher. Student answers remain anonymous, and various tactics are

employ to ease the anxiety potential in what first appears to be a testing situation. Teachers identify students with reading difficulties, who are read the survey statements aloud. Each item describing an occurrence at school can be answered either "Mostly True" or "Mostly False", and the focus for the question can either be the individual, his classroom or the entire school.

To describe the intensity of environmental variables as viewed by students, a consensus scoring procedure is used. Each environmental variable is described by several survey items. If sixty-six percent or more of the students answer a survey item in a keyed direction, the statement is scored +1, indicating strong agreement among students as to the presence of this condition in the school environment. If less than thirty-three percent of the students answer a statement in the keyed direction, that statement is scored -1, indicating strong agreement as to the absence of the condition in the school environment. Other statements on which student opinions are more evenly divided receive a zero score. The total variable score is then the sum of scores for the items that make up the variable scale. Each school or classroom (depending on the unit of measurement) receives both an item and variable report.

In essence, this measurement and scoring technique, adapted from the work of Pace and Stern, rests on two assumptions: First, that the perceptions of individuals working in an environment are a source of valid description of that environment; and second, that if two-thirds or more of the participants perceived a particular condition in the same way, then it could be considered as an existing characteristic of the environment. In short, this consensus scoring procedure allows educators to describe school or classroom environment by assigning weighted scores based on student responses to survey statements descriptive of school climate.

Finally, the identification of the specific environmental variables to be measured depends on the major curriculum concerns or problems to be investigated. For example, when Sinclair was first concerned with identifying environmental dimensions that differentiated among elementary school environments, he adapted for elementary use the five dimensions of educational environment discovered by Pace to differentiate institutions of higher education. The Elementary School Environment Survey (ESES) was pilot-tested using sixteen elementary schools in southern California, and was found to measure clear differences among school environments along the specific dimensions.[19] Later, when the intent was to investigate curriculum conditions supporting the move toward increased individualization, the instrument was administered in fifty-four randomly selected elementary schools in Massachusetts. As a result of factor analysis, six dimensions of elementary school environment were identified and named: Involvement, Humanism, Autonomy, Equity, Resources and Morale.[20] In this revised form, the ESES consists of forty-two statements describing six dimensions of elementary school environment.

When Ghory focused on the marginal learner problem in public alternative schools, he reviewed the literatures on deviance in school and on participation or involvement in learning. The variables he extracted from these sources were screened for appropriateness by three separate panels--school principals, teachers in graduate study, and educational researchers. The panels also matched randomly scrambled items to variable definitions. The items selected for direct relationship to the variables were then read by three teachers of different cultural backgrounds and by students with reading problems, to simplify and clarify word choice and syntax. After pilot-testing, the Alternative School Environment Survey (ESES) consisted of eighty-eight statements related to eleven dimensions of alternative school environment likely to influence student involvement in

learning. The variables were named: Outreach, Problem-Solving, Limits, Communication, Discrimination, Clarity, Difficulty, Teacher Effectiveness, Mis-Schooling, Peer Influence and Extra-School Priorities.[21]

While these instruments are currently available for use (cf. Appendix A), the point of these examples is that alternative instruments can and should be developed to focus on other specific curriculum concerns. The selection of variables for these instruments is a manageable task, and one that can significantly increase the relevance of student perceptions for a particular teacher, school or concern. In sum, assessing curriculum conditions in educational environments through the use of student perceptions is a feasible project for a school staff. When survey instruments are selected or developed with an existing curriculum concern in mind, the consensus scoring procedure provides an objective measure of the Beta press in school settings. In particular, teachers can learn student perceptions of the quality of the learning experience in the classrooms they have created. In contrast to information on input or output variables like IQ or achievement test scores, perceptual data highlight curriculum processes that can be altered by teachers to improve the connection between the curriculum and the student. Since the data collected are directly related to the day-to-day environment of teacher and students, perceptual inquiry of this sort provides information in a form suitable for practical curriculum dialogue and action.

Selected Findings from Perceptual Research

Student perceptions of school environments can be analyzed in four major ways. First, student perceptions describe specific characteristics of school environments. Second, student perceptions can be used to compare school environments, as a way to identify similarities and differences among schools.

Third, the perceptions of student sub-groups within the same environment can be compared, or the perceptions of students and teacher toward the same environmental conditions can be contrasted. Fourth, the relationships among the behaviors of participants and the characteristics of the environment can be explored.

In this section of the paper, examples of these four uses of student perceptions will be drawn from three major studies conducted by the authors and their colleagues. Of course, other possible interpretations of student perceptions exist. Similarly, different data bases could be considered. However, the purpose here is to illustrate the ways perceptions can be used in curriculum decision-making by school staffs.[22] To provide a context for consideration of the results to be reported, a brief summary of the samples and statistical approaches involved in the three studies will precede the discussion of selected findings.

Sources for the Selected Findings

The first two major studies were conducted among elementary schools in Massachusetts for the State Department of Education. One study, the Massachusetts School Environment Study, was conducted in 54 randomly selected elementary schools. Schools were assigned a six-digit identification number based on the alphabetical order of the city or town and the school name. Using a random number table, a sample of 54 schools with varying demographic characteristics was selected from the total of 1,196 schools identified. In the selected schools, a total of 5,412 fifth and sixth grade students responded to the ESES. The survey was administered by 20 doctoral students who had participated in two training sessions. Results were scored by the consensus scoring procedure and used to determine similarities and differences among elementary school environments in Massachusetts.

The second study, the Massachusetts Innovative School Study, compared the perceptions of students and teachers in 36 additional Massachusetts elementary schools expressing an interest in adopting innovations. By comparing perceptions, a clearer understanding of the relationship between the perceptions of two fixed populations within the same environment could be obtained. This comparison permitted school staffs to detect if their program expectations were being implemented and to identify needed changes in the environment. The same administrative teams and scoring procedures were used, as over 4,000 students and 600 teachers responded to the ESES. To determine if students and teachers perceived their environments differently to a statistically significant degree, an analysis of variance was performed on the collected ESES data.

In addition, for the Innovative School Study, teacher perceptions toward four variables of principal behavior (aloofness, production emphasis, thrust and consideration) and four variables of teacher behavior (disengagement, hindrance, esprit and intimacy) were collected using the Organizational Climate Description Questionnaire (OCDQ). This instrument, developed by Halpin and Croft, was composed of 64 items to which responses were given on a four-point scale. The scores of teachers were averaged to derive a school score for each variable. These school means were then converted to normatively standardized scores by comparison with the national sample. Finally, the relationship between educational environment variables and the principal and teacher behavior variables was tested by means of canonical correlation.

The third major study, the Alternative School Environment Study, compared the perceptions of 353 students on the margins of thirty-one public alternative high schools to the perceptions of 1,339 of their more involved and productive classmates. Responses to the ASES were collected from a universal sample of students attending varied alternative schools representative of the national

alternative school movement that were selected by means of a purposeful stratified sample. The 31 schools from six Eastern states were selected on the basis of five criteria: location of school (urban, suburban, rural); multicultural mix in the student body; size; programmatic diversity; and interest in the marginal learner problem. Learners marginal to the school environment were identified by the teaching staff using specific criteria based on attendance, teacher-student relations, disciplinary actions and expressed dissatisfaction with the school. Students also responded to a series of questions based on the same criteria and could self-select themselves for the marginal status by identifying difficulties with at least three of the criteria. Finally, student reports for their environments were quantitatively analyzed by means of a two-way analysis of variance to provide answers to three major research questions. In sum, the results of these three studies will provide example of four uses of student perceptions.

Uses of Student Perceptions: Environmental Description

Using the consensus scoring procedure, a profile of the school environment along specific dimensions was provided to each school participating in the research. Appendix B contains an excerpt from such a profile report provided to a medium-sized, multicultural, urban, public, alternative high school that participated in the Alternative School Environment Study. Typically included in such a report would be a bar graph of the intensity of different environmental dimensions, a written summary of the bar graph, an analysis of the views of different sub-groups of students, and definitions of the environmental variables. Also, a computer printout with item by item student responses is made available to school staffs (but is not included in Appendix B).

The bar graph and its description orient school staffs to how their students view curriculum conditions at the school. Three strengths of "School 21" were reported by student consensus in Appendix B. First, the school made special efforts to help students learn (Outreach). Second, academic expectations and standards were clear to students (Clarity). Third, the teachers in this alternative school were viewed as effective at encouraging involvement in learning (Teacher Effectiveness).

However, several environmental variables suggested potential points of concern for the school staff. First, race relations were a sore point for more than a third of the students (Discrimination). Second, the school was not viewed by students to be challenging or difficult academically (Difficulty). Third, many students felt handicapped by academic deficiencies (Mis-Schooling) and burdened by outside responsibilities and difficulties that interfered with school work (Extra-School Priorities). Finally, there appeared to be some ambivalence on the part of student peer groups and school staff concerning attendance at every class (Peer Influence, Limits).

In our experience, school staffs react in a variety of ways to such descriptions of the curriculum conditions in their school. One initial response is to deny the validity of the findings, usually by criticizing the survey instrument or by citing extenuating circumstances interfering with the validity of student perceptions. Frequently, concerns at this level can be discussed as legitimate questions, and considered by staffs as possible qualifications of the data. In the process of working through initial resistance to descriptions of their school environment, teachers realize that these are their students speaking, not the researchers. More thoughtful questioning then begins, as values underlying the selection and definition of environmental variables are probed; and the beliefs and concerns held by teachers are aired. Many school staffs have few opportunities to discuss their approaches to curriculum and instruction in a setting where

their students' perceptions of the school provide a constant reminder of the need to connect curriculum theory and practice. It is interesting to note that educators generally waste little time congratulating themselves for the successful practices students have recognized. Conscientiously, they search out and weigh the data indicating difficulties or problems from their perspective. At this point, potential corrective actions are discussed, and plans to gather further information or to develop proposals for common action are made. In sum, the intended outcome of a thorough consideration of student perceptions is a data-based dialogue among teachers concerning ways to improve curriculum conditions in their school. Naturally, this goal is achieved to a variety of degrees at individual schools. Nevertheless, the use of student perceptions to provide a description of a school environment creates an opportunity for curriculum dialogue and action.

Uses of Student Perceptions: Comparisons of School Environments

Because the school, on a classroom by classroom basis, is the most promising unit of curriculum reform, each school is initially provided with a report concerning its own environment only. This practice focuses curriculum dialogue and decision-making back home; because, contrary to educators' half-conscious hopes, no invention, practice or person from outside the school can ultimately improve the school unless active responsibility for improvement is assumed by the school staff. At an early point in the dialogue, however, a comparison of this school to other schools is useful for two reasons. First, the comparison highlights programmatic and behavioral regularities common to many schools that are accepted as the givens of school life, but which may need to be altered after reflection and planning. Second, information about curriculum practices effective at other schools stimulates the development of curriculum

approaches that may be effective at this school. Examples of each of these purposes follow.

One way to look at similarities among environments is to examine the percentage of students from each school who responded similarly to particular questions. In the Massachusetts School Environment Study, statements revealing similarities (by eliciting the greatest consensus among students) were identified by establishing a cut-off point of 75% agreement. Table 1 reports these results.

In brief, statements having a high consensus among students indicate three conditions on which Massachusetts elementary schools were similar. First, the concept of work, as distinct from the products of work, was highly valued. Elementary teachers seemed to value the appearance of work almost for its own sake, and awarded better grades to students perceived as good workers. The consistent agreement among student perceptions on this issue (cf. Statements A, H, I, K, O, P) suggested that schools were more activity-oriented than goal-oriented. It is possible that such schools sometimes sanctioned busy work at the expense of productive play or other forms of learning.

Second, elementary schools were perceived as being warm and friendly places, where students and teachers were concerned about each other (cf. Statements B, J, M, N, S). Despite the work ethic, school did not appear to elementary students to be utterly joyless places, as other adult commentators who did not systematically consider student perceptions have suggested.[23] Possibly, some of the impersonal institutional characteristics so often cited by critics of schooling never reach their complete dehumanizing impact on learners because teachers restructure the impersonal priorities and provide a measure of consciousness and concern in the process of schooling.

APPENDIX I

Statements Eliciting the Greatest Consensus From Massachusetts Elementary School Students

	STATEMENT	MEAN PERCENTAGE
A.	Teachers will raise a student's grade if they think the student has worked hard.	85.4% True
B.	In this school students ask other students to visit them at home.	85.3% True
C.	In many classes, students sit in any seat they choose.	84.4% False
D.	Bells ring during the day to tell students what work to do next.	84.3% False
E.	In this school students usually have to line up before going into the classroom.	82.2% True
F.	Social Studies is not a very important subject in this school.	81.9% False
G.	Most teachers do not try to get students interested in what's going on in the United States.	81.6% False
H.	Most of the teachers are very hard workers and they think that the students should be hard workers too.	81.2% True
I.	Students get good grades without spending much time studying.	81.1% False
J.	Most of the teachers do not care about problems that students are having.	80.9% False
K.	Most students finish the projects and assignments that they start.	80.8% True
L.	Science is the most important course in this school.	79.8% False
M.	This school seems to be an unfriendly place.	79.4% False
N.	Most of the teachers in this school are unfriendly.	79.2% False
O.	Most students are happy if they do average work.	78.6% True
P.	In this school it is easy to pass most subjects without working hard.	77.4% False
Q.	Students know they should check with the teacher before they do something that might break a school rule.	77.0% True
R.	The subjects taught here do not help students to learn to solve real problems.	76.8% False
S.	Teachers are kind and friendly when they work with students.	75.6% True
T.	Many students often talk about what is right or wrong.	75.1% True

n = 5,412

The third and final group of high concensus statements was associated with a procedural and routine-oriented similarity (Statements C, E, Q, T). Students were assigned seats, made to line up before entering classrooms, and were generally aware of the importance of following school rules. The consistency of such responses across schools suggested the dominance of traditional school practices. It was likely that schools placed greater stress on procedural issues than was always warranted by student needs or the nature of learning.

In short, similarities across schools can be used to raise questions about the covert assumptions underlying commonly-accepted school practices. By no means should teachers summarily discard traditional curriculum approaches. Rather, each practice deserves a thorough investigation that determines its legitimate place and appropriate emphasis. Most curriculum practices were created in response to a definite need. Sample questions that can now be raised are: to what degree does that need still exist; has the curriculum practice been over-extended into domains where the need is not present; are there feasible alternatives that might be more productive; should the existing practice be extended or reinforced more consistently. In sum, consulting student perceptions concerning similarities among schools can be the beginning of a curriculum audit, similar to that called for by proponents of zero-based budgeting.[24]

A second reason for comparing school environments is to search for curriculum practices common to effective school environments that might be adopted for use at our school. For example, in the Alternative School Environment Study, environmental conditions were isolated that were common to schools with high variable press but did not occur in schools with low variable press. To isolate

these conditions, the schools scoring highest and lowest on each variable were grouped by student scores. (The distance separating the highest or lowest scoring school groups generally exceeded two standard deviations.) Two criteria were established before a survey statement was considered to exclusively characterize the high scoring group. First, the statement had to be perceived in the same way by two-thirds or more of the students in all the highest scoring schools. Second, the statement could not be common to both the highest and lowest scoring groups.

Table 2 reports the survey statements that were characteristic of top-scoring schools on two environmental variables. (In the Alternative School Study, characteristics of top-scoring schools on nine variables were identified, but two examples should suffice.) As Table 2 suggests, in schools characterized by high Outreach scores, teachers noticed and responded to individuals or groups who needed help by observing their actions and seeking out their concerns. They sought suggestions from students about how to improve their curriculum, and made time for students after class. Students in schools that reached out could find classes that they liked. In schools with high Outreach, special efforts were made to connect the curriculum with learner needs and interests.

Further, Problem-Solving schools were not afraid to recognize information which suggested the need for improvement. Teachers and administrators responded constructively to evidence of difficulty or suggestions of need, and stayed with a problem until progress occurred. Their pupils may have tended to be more involved in learning, both because their problems were recognized and responded to, and because they realized that extreme lapses or disruptions would not go unchallenged. Thus, a problem-solving school developed and maintained an identity as an effective environment, a "really good" school.

TABLE 2

Common Characteristics of Top-Scoring Schools
On the Outreach and Problem-Solving Variables

OUTREACH

A. If I'm feeling down about something, one of my teachers is likely to notice. (T)*
B. Teachers at this school make special efforts to help me learn. (T)
C. There are not many classes I like at this school. (F)
D. My teachers try to find out what I want to learn. (T)
E. My teachers do not ask for suggestions about how to improve their classes. (F)
F. My teachers talk to me after class when I don't understand the school work. (T)

PROBLEM SOLVING

A. The teachers who work with me most do not really help me with my school problems. (F)
B. When someone misses a lot of classes, the teachers can't seem to do much about it. (F)
C. Some teachers don't try to make this a really good school. (F)
D. At this school, we have meetings which actually solve school problems. (T)
E. I tell a teacher when I think something is wrong in school. (T)
F. I think this school is good at solving its own problems. (T)
G. Very few students try to solve the problems in our school. (F)
H. We have solved most of the problems in our school. (T)

*The response agreed upon by more than two-thirds of the students in the highest scoring schools is reported in parentheses after each item.

In sum, the conditions characteristic of top-scoring schools were present in the schools scoring highest on the variable and absent in the lowest scoring schools. These distinctive conditions can be used as reference points by school staffs who seek to improve their schools. For example, if students had ranked a school environment lower on a specific ASES variable than thought desirable by the school staff, this way of using student perceptions provides reference information about conditions common in schools that scored highest on that variable. With allowances for its exploratory nature, this information could

contribute to informed decisions by school staffs about curriculum improvements best suited for a specific school.

Uses of Student Perceptions: Comparisons of SubGroup Views

Curriculum dialogue depends on the interplay of two or more points of view. When the perceptions of two groups of participants in a school setting are compared, the points of agreement and disagreement stimulate curriculum thinking and planning, by raising unexpected challenges or by providing confirmation for newly examined ways of thinking about the school. In particular, our research suggests that two sets of subgroups provide effective comparisons: teachers vs. students, and marginal vs. involved learners.

In the Innovative School Study, the perceptions of students and teachers were compared on two levels: across all sampled schools and within single schools. First, to test whether perceptions of students and teachers differed across all schools, school scores for both teachers and students from the 36 schools were analyzed using the analysis of variance approach. Second, to investigate differences within each single school, individual student and teacher scores for each variable were used in a one way analysis of variance. Table 3 summarizes the results of these analyses.

The findings reported in Table 3 show that students and teachers differ significantly in their perceptions of educational environment. On four of six environmental variables (Involvement, Humanism, Morale and Resources), analysis of variance across schools indicated this difference in teacher and student views to be at a level of statistical significance. Second, within the majority of single schools, student and teacher views differed in a significant manner on four variables (Involvement, Humanism, Morale and Autonomy). Finally, teachers consistently scored higher than students on all variables.

TABLE 3

Comparison of Student and Teacher Perceptions of Environmental Dimensions in 36 Innovative Schools

Environmental Variable	Significance of Student and Teacher Differences Across Schools	Significance of Student and Teacher Differences In Single Schools ($p < .05$)	Direction of Difference
Involvement	Significant at .01 level	23 of 36 schools	Teachers scored higher
Humanism	Significant at .01 level	29 of 36 schools	Teachers scored higher
Morale	Significant at .01 level	32 of 36 schools	Teachers scored higher
Autonomy	No Significant Differences	21 of 36 schools	Teachers scored higher
Equity	No Significant Differences	No Significant Differences	Teachers scored higher
Resources	Significant at .05 level	11 of 36 schools	Teachers scored higher

n = 4,600

In plain words, elementary school teachers viewed their schools as more congenial and cohesive than students did (Involvement). Second, teachers saw the school as a place with greater concern for individuals and individual creativity than did the students (Humanism). Third, teachers viewed the school climate as a more friendly and cheerful place than students did (Morale). Fourth, teachers perceived school environments as encouraging more student independence and initiative than students reported that they were permitted to exercise (Autonomy). Fifth, teachers and students tended to have relatively similar views concerning the degree of fairness vs. opportunism in the environment. Sixth, teachers saw the school as providing a greater number of materials and experiences than students did.

Differences between the perceptions of groups arouse curiosity leading to further efforts to understand school settings. It may be no surprise that teachers and students perceive their shared world differently. The difference in their roles and experience certainly account for a large part of the difference. But the consistency and intensity of the differences in perception is enough to cause most teachers to pause long enough to reconsider how different curriculum approaches will be perceived by students. The incongruency between teacher and student perceptions can thus become another motivation for investigating the impact of different school environments on students.

In the Alternative School Study, a second potentially powerful comparison between the perceptions of subgroups in a school was explored: the comparison of marginal and non-marginal student perceptions. To begin, we had to establish that marginal status as we defined it was a descriptive category for distinguishing between students. While it is clear that teachers differ from students in important ways, it is not necessarily true that marginal and involved students differ in meaningful and consistent ways that could not be explained by other variables like cultural background or social class. However, when the perceptions of all marginal and non-marginal learners were compared, analysis of variance results indicated that the two student groups differed in a statistically significant way ($p < .001$) in their perceptions toward nine variables describing curriculum conditions in alternative schools. Further, on eight of these nine environmental dimensions, the differences between marginal and non-marginal learner perceptions were consistent, regardless of the cultural background, social class or sex of the students. These findings can be provisionally interpreted as clear evidence that marginal status is a powerful descriptive category for understanding learner perceptions of school environment.

Next, a grouped t-test was conducted to examine whether the differences between marginal and other learners were consistent across schools. T-test results revealed significant differences ($p < .05$) consistent across schools on five variables (Extra-School Priorities, Discrimination, Outreach, Clarity and Communication). In brief, marginal learners perceived more responsibilities and difficulties from outside the school, greater discrimination against themselves and others, fewer special efforts by teachers to help them, less clear academic expectations and procedures, and less effective communication systems in alternative schools.

For a more in-depth look at the differences between marginal and non-marginal learners, school staffs refer to item reports like the one highlighted in Appendix B. There, the specific perceptual differences between marginal and other students suggest departure points for creating learning environments that better connect with students whose learning needs are not being well served by current educational settings. In particular, the successes or difficulties of individual students can be productively investigated in the context of what is known about the differences between group perceptions. While it is not possible to explore extensively in this paper the implications of these marginal learner findings, it should be plain that school practices effective with some learners need to be adjusted for others also to be successful.

In sum, by comparing the perceptions of subgroups within a school environment, school staffs can gain additional insight into the effectiveness of the learning environments they have created for students. The gaps between group views of the same environment initially puzzle teachers and administrators, compelling them to think through their situations with information from a new perspective.

Uses of Student Perceptions: The Relationship of Environment and Behavior

A fourth use of student perceptions is to explore relationships among the behavior of participants and the perceived characteristics of their schools. On a practical level, this exploration is the substance of all school dialogues concerning the relationship between a group's perceptions and their behavior. However, this relationship involves the most highly theoretical of the uses of student perceptions. Until more is understood about the mediations between perceived environment and behavior, this use of student perceptions may be of greatest use to researchers.

In the Innovative School Study, principal and teacher social interaction was examined in relation to educational environment. Collective perceptions of students were obtained on the ESES instrument, while teacher perceptions of principal and teacher behavior were obtained from the Organizational Climate Description Questionnaire (OCDQ).[25] The canonical correlation approach was used to express, in a single index, the interrelationship between the various sets of multiple variables.

The canonical analysis provided evidence that: 1) a high degree of relationship (.76, $p < .01$) exists between the behavior of teachers and the educational environment; 2) the set of principal variables was significantly related (.60, $p < .05$) to the set of teacher behavior variables; and, 3) the behavior of the school principal was related (.61, $p < .10$) to the environmental variables. These general findings confirm common views of the role of the teacher and principal in creating school environments. More importantly, they offer the opportunity for hypothesis testing concerning specific bivariate aspects of these relationships.

Using Pearson product-moment correlations, sixteen statistically significant relationships among principal behavior, teacher behavior and educational

environment were discovered. The major findings can be summarized as follows:

1) The principal behaviors of thrust ($p < .01$) and consideration ($p < .05$) were related to involvement (+), humanism (+), and morale (+) in the school.

2) The teacher behaviors of disengagement and hindrance were significantly related ($p < .01$) to the educational environment variables of involvement (-), humanism (-), and morale (-).

3) The teacher behavior of esprit was significantly related ($p < .01$) to involvement (+), humanism (+), morale (+), and resources (+) in the school.

In other words, this evidence suggests, first, that principals who make evident efforts to improve the organization (thrust) but who do so in ways considerate of teachers (consideration) tend to create school environments perceived by students to encourage involvement, to be humane, and to be friendly or cheerful. On the other hand, when teachers simply go through the motions (disengagement) or feel burdened by the principal with unnecessary busy work (hindrance), students tend to perceive their school environments as discouraging participation, as insensitive to them, and as unfriendly places. However, when teachers feel a sense of accomplishment and involvement at school (esprit), students also characterize their school environments as responsive, humane, friendly and abundant in learning resources.

Clearly, principal, teachers and students live together in one interconnected environment. The character of this learning environment is directly influenced by the behaviors of the participants, especially when the principal or teacher feels no responsibility or power for determining what goes on in school. While the evidence cited here does not establish causal relationships, it does open perspectives on common sense relationships among participants in a shared setting. Again, it is clear that principals and teachers need to consider each other's perceptions, as well as student's perceptions, if they want to create productive, satisfying learning communities.

In sum, by sharing perceptions, school participants obtain data that provoke curriculum dialogue. By analyzing perceptual data in the four ways suggested in this section, school staffs can prepare for carefully considered action based on what they have learned about their schools.

Expressed, Implied and Emerging: Curriculum as Environments for Learning

The way educators think about curriculum influences how they act in school. To insure that perceptual information becomes a part of the way we think about curriculum, an expanded meaning of curriculum is needed that includes a place for the use of perceptions during curriculum decision-making. In this final section, we advance a view of curriculum as environments for learning, in an attempt to demonstrate how perceptions can be used by teachers acting in the role of curriculum decision-makers.

In our view, the curriculum consists of both environmental and perceived conditions for learning. Considered in its external or environmental aspect, the curriculum acts as a complex network of determinants exerting an influence on the behavior of individuals at school. These determinants are physical, social and intellectual conditions that shape and reinforce behavior. For example, the learner is exposed to a sequence of learning tasks, a collection of learning materials and the influence of individual personalities and collective norms.

Although many writers have described the learning environment as a powerful determinant of pupil behavior, we caution that not all of the school's environment should be considered "curriculum." The external sources of a school's environment are multiple and complex: from the influence of the physical plant, to the social and economic conditions of the neighborhood group,

to the historic and economic function of schooling, to the pressures from the Central Office, to the availability of resources, etc. We reserve the term "curriculum" for the environmental ingredients that have been deliberately shaped to create a context for learning. Freud's dictum, "where id is let ego be," urged his patients to seize hold of the impulsive, contradictory and irrational mix of pressures ruling their lives. In an analogous way, we urge "where unexamined environment is, let curriculum be" to suggest that "curriculum" refers to the conditions for learning that result from the participative process of constructing and re-constructing school environments.

Furthermore, the curriculum consists of environmental stimuli as interpreted by participating individuals. As Murray suggested, it is the learner's perception of environmental roles and expectations that guides his behavior. Individuals construct, anticipate and actively respond to environmental conditions based on the ways they perceive them. Because the individual's perceptions of environmental conditions also serve as determinants of behavior, curriculum consists, in our definition, of the internal (or perceived), as well as the external (or environmental) conditions for learning.

When we apply this general meaning of curriculum to practical school settings, we find that school learning conditions are characterized by the three inter-related dimensions of curriculum described below. In brief, the dynamic nature of curriculum derives from the relationships among the expressed, the implied and the emerging dimensions of curriculum. Thus, our view of curriculum as environments for learning sees curriculum as consisting of environmental and perceived conditions for learning that can be further described in terms of their expressed, implied and emerging dimensions.

The Expressed Dimension

This dimension of curriculum is a written statement expressed in terms of intended learning objectives, learning opportunities, a sequence of content, and evaluation procedures. The expressed dimension is the course of study or the syllabus, an acknowledged plan stating what is to be learned and describing how to teach and evaluate. Usually, academic disciplines are one major data source for deciding expressed curriculum.

The Implied Dimension

This dimension of curriculum consists of implied messages received by learners from the physical, social and intellectual environment of the school. Similar to what is known as the hidden curriculum, this dimension includes the unstated and unplanned messages given off by the rules and traditions embedded as regularities in the ongoing way of life in a school and its classrooms. Also, the implied dimension refers to unintended learning that results because of what is included or omitted in the content that is taught. The conditions of the implied are further spelled out in those actions of students and adults which are only rarely verbalized or explained. The implied dimension is critical because the learners' perceptions of the conditions that make up the habitat of the school and classroom result in a personal view that influences either positive or negative learning. For this reason, the perceptions of students toward the school and classroom environment are the central data source for recognizing and shaping the implied curriculum.

The Emergent Dimension

This dimension of curriculum includes the ongoing alterations, adjustments and additions that are made in the expressed and implied curricula in order to insure harmony between the uniqueness of the individual learner and the character

of the curriculum. The emergent serves as a corrective measure to smooth and put the expressed and implied parts of the curriculum in line with each other and with learners. In other words, the emergent dimension intervenes when there are excessive gaps between learners and the curriculum. Emergent decision-making seeks to reduce chances of disconnection, unnecessary failure or unintended boredom. For this reason, the needs of the learner are the major data source for the emergent dimension.

In short, deliberately constructed environments for learning take into account three related dimensions of curriculum. When we describe learning conditions in their expressed, implied and emergent dimensions, we are attempting to interrelate the practical realities of curriculum as it exists for teachers and pupils in schools. To clarify the use of perceptions in curriculum decision-making, let us now briefly describe the curriculum development cycle suggested by this meaning of curriculum.[26]

While the expressed dimension is traditionally the most prominent in teacher's thinking, in our view it is primarily the initial dimension or starting point. From the beginning, learning conditions created by teachers have expressed elements (intended learnings, major concepts, planned learning opportunities); but, immediately after instruction begins, the implied messages and consequences of the organization of the expressed elements are felt by learners. When teachers recognize serious gaps between their learning environments and the desired perceptions and behavior of their students, they can act in an emergent fashion to revise the curriculum. When student perceptions and behaviors indicate that certain curriculum conditions are leading to desired learning, the teacher can also act in an emergent way to reinforce or extend those curriculum practices. Curriculum-making, then is the ongoing creation of

conditions for learning. In this view, teachers have the responsibility for shaping learning conditions that link pupils to the curriculum through ongoing refinement and alteration of its expressed, implied and emergent dimensions. A brief discussion of teacher decision-making for each curriculum dimension will explain further this curriculum development cycle.

Decision-Making for the Expressed Dimension

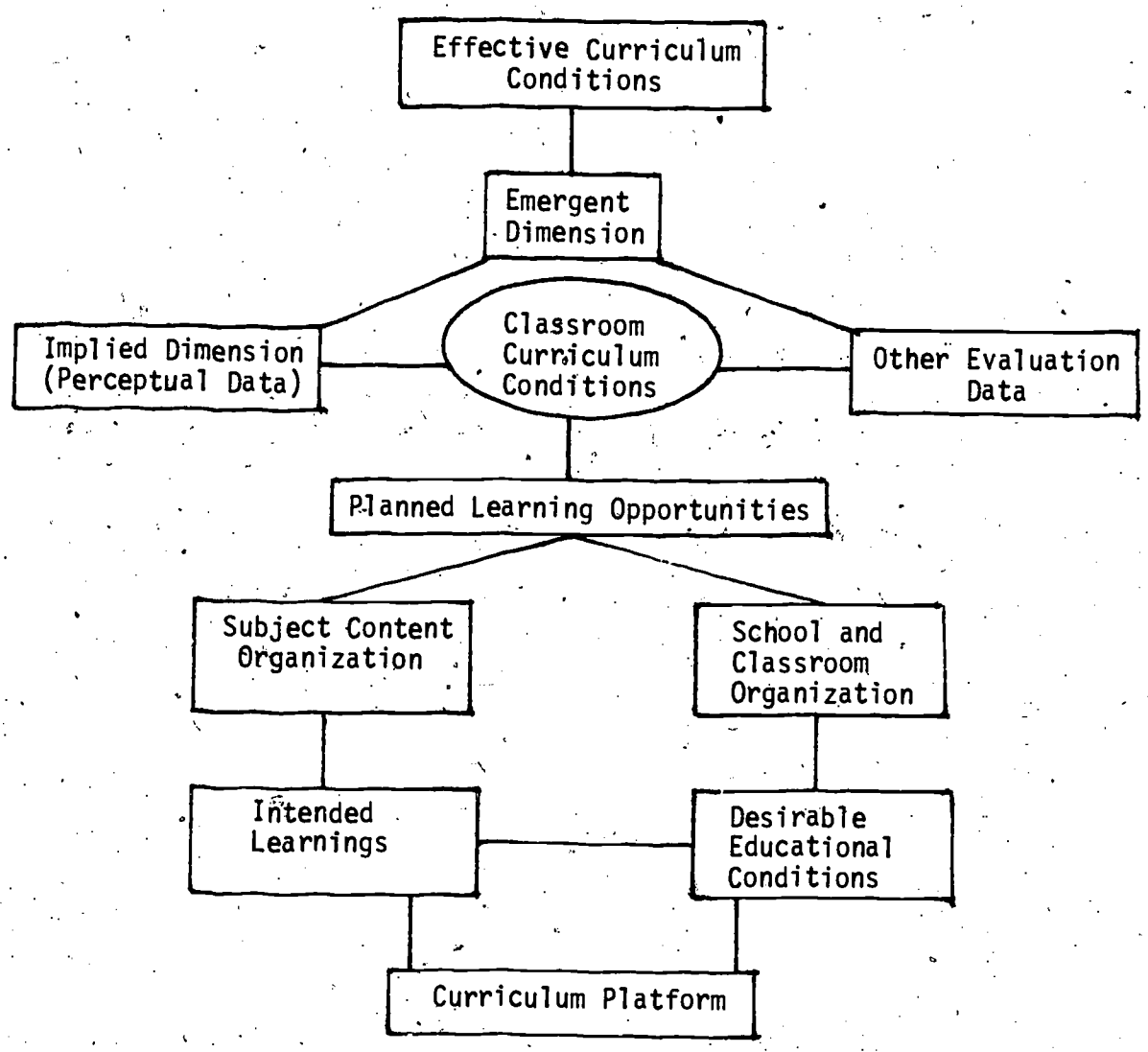
The decision-making process for the expressed dimension will be the most familiar to curriculum theorists, since it is closest to Tyler's classical curriculum development process. Figure 1 presents the decision-making steps. Building from a platform of shared values, images and beliefs, teachers identify and organize both intended and desirable environmental conditions, leading to planned learning opportunities for students. Next, teachers collect perceptual and other evaluation data assessing the effectiveness with learners of the expressed curriculum.

The starting point, then, is a curriculum platform,[27] defined as the system of beliefs and values the curriculum developer uses to guide the development of curriculum. Through a process of deliberation involving educators, students, parents and community representatives, decisions are made concerning both the intended learnings and the desirable educational conditions in the school. This statement of desirable educational conditions should describe in general terms the kind of individuals the school seeks to develop and the intended character of the institution as a learning community.

The next step in the decision-making process is to organize the subject content, the school and classrooms in line with the platform and the stated aims. The processes and considerations at this stage are too multiple and complex for a detailed set of recommendations to be advanced in this paper. Nevertheless,

FIGURE 1

Curriculum Decision Making for the Expressed Dimension



it should be said that this is the point for the structures of the academic disciplines to be considered, and for the intended learnings to take on appropriate scope, sequence, and integration. Similarly, careful attention is due the consequences of different forms of school and classroom organization, which are means to the ends that have been set.

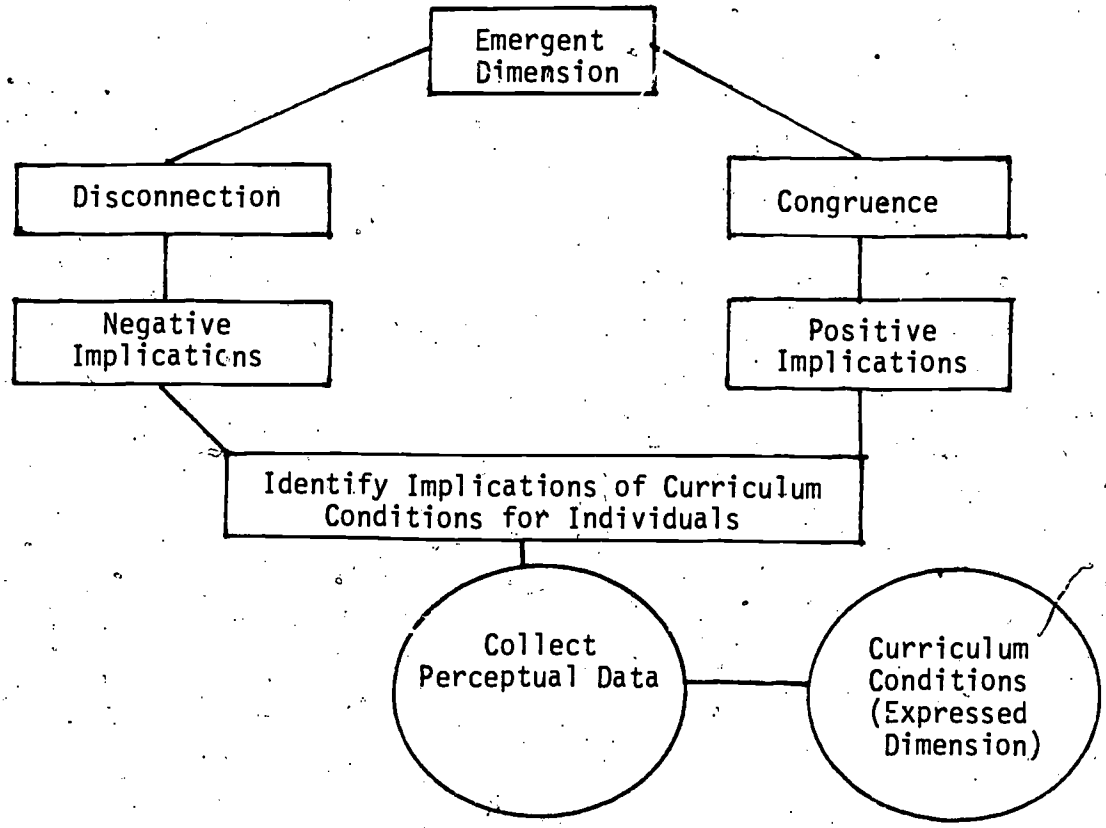
Once subject matter and environment have been organized, the teacher creates planned learning opportunities for students. Whether course syllabi, instructional units or lesson plans, these are the last product of expressed curriculum before instruction. When the plan is implemented in the classroom, a changing set of curriculum conditions is created. The expressed decision-making process ends with the definition of evaluation and assessment approaches for determining both the results of instruction and the match between the curriculum and learner. Thus, the expressed decision-making process leads directly to both the implied and emergent dimensions which focus on reinforcing and improving the ongoing implementation of expressed curriculum.

Decision Making for the Implied Dimension

Using perceptual data, the implied decision making process determines whether curriculum conditions create situations of congruence or disconnection for learners. As Figure 2 indicates, the first step is to collect perceptual data concerning the match between curriculum conditions and learners. While an effective teacher is constantly weighing the implications of student responses to learning activities, sensitive instruments like the ones discussed above have also been developed to collect and summarize student perceptions toward key dimensions of a learning environment. Perceptual data is used to identify implications of the curriculum conditions for individuals. The purpose of collecting and assessing perceptual data is for teachers to reach

FIGURE 2

Curriculum Decision Making
For the Implied Dimension



a conscious recognition about the relationship between each pupil and the curriculum. We have in mind something akin to Dewey's concept of problem-definition, in which the transformation of an indeterminate situation into "a problem" is seen as the first step in inquiry.[28] The decision made during consideration of the implied curriculum dimension is clear cut: a situation of relative disconnection or relative congruence exists for groups or individuals. With this decision reached, inquiry has begun and the teacher now moves to the emergent decision making system.

Decision Making for the Emergent Dimension

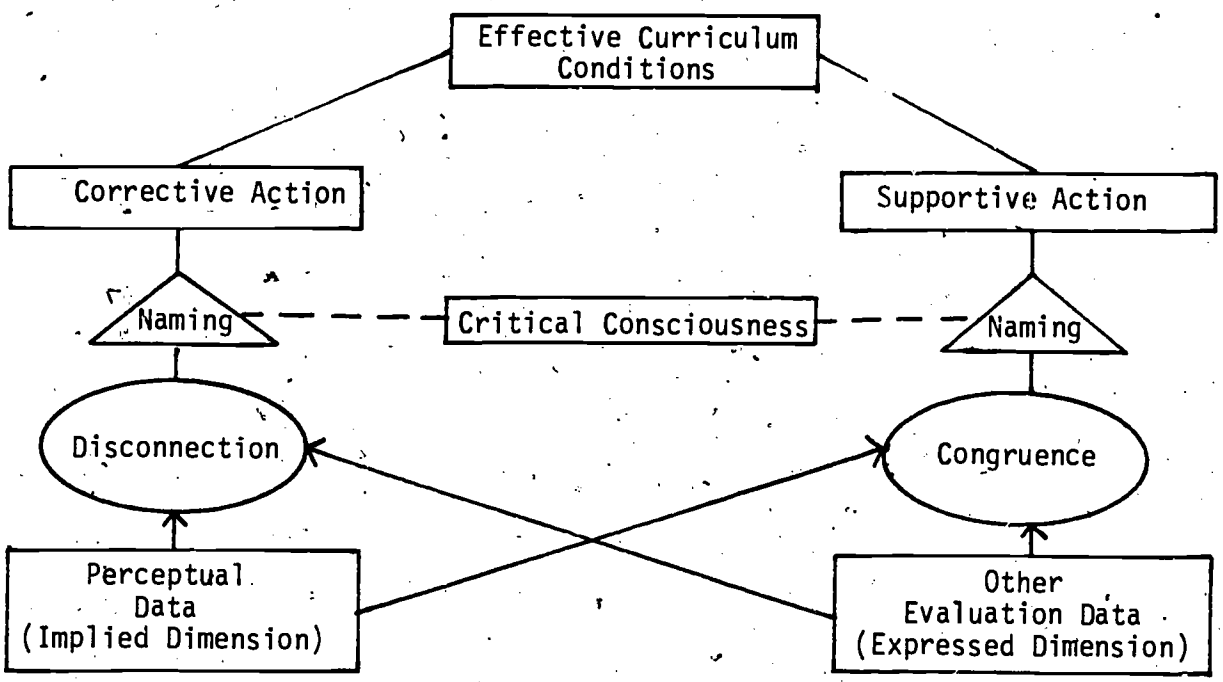
Figure 3 diagrams the inquiry process involved in the emergent dimension. Based on a recognition of the disconnection or congruence between learners and curriculum, decision making for emergent curriculum develops a critical consciousness of the sources of congruence or disconnection, and plans supportive or corrective action to create more effective curriculum conditions.

As we have seen, the perceptions of students are an important data source for judging the relationship between curriculum and students. Other evaluation data from achievement tests, aptitude tests, interest inventories, or attitude scales can also indirectly suggest disconnection of congruence. In either event, recognition of a problem or desirable condition launches inquiry. The next step is for teachers to identify the constituent elements of the curriculum conditions that are influencing disconnection or congruence. Using Freire's term "naming", this step refers to the formation of hypotheses concerning why a learner is disconnected or successful. The hypotheses formed during the naming process are not likely to define causal relationships in the strict sense. Rather, a critical consciousness of the curriculum context in which learning occurs for individual pupils should develop.

Based on a growing understanding of curriculum conditions, a teacher can take supportive action to reinforce and motivate successful student behavior. Alternatively, the teacher can begin corrective action to reduce or eliminate possible sources of disconnection between student and curriculum. As Dewey points out, alterations in a learning environment are experimental in nature, especially at first. Based on exploratory hypotheses, possibly relevant solutions come to mind. Emergent ideas that "pop out" during the determination of factual conditions are, in Dewey's terms,

FIGURE 3

Decision Making for the Emergent Dimension



> "anticipated consequences (forecasts) of what will happen when certain operations are executed under and with respect to observed conditions... The more the facts of the case come to light in consequence of being subjected to observation, the clearer and more pertinent become the conceptions of the way the problem constituted by these facts is to be dealt with."[29]

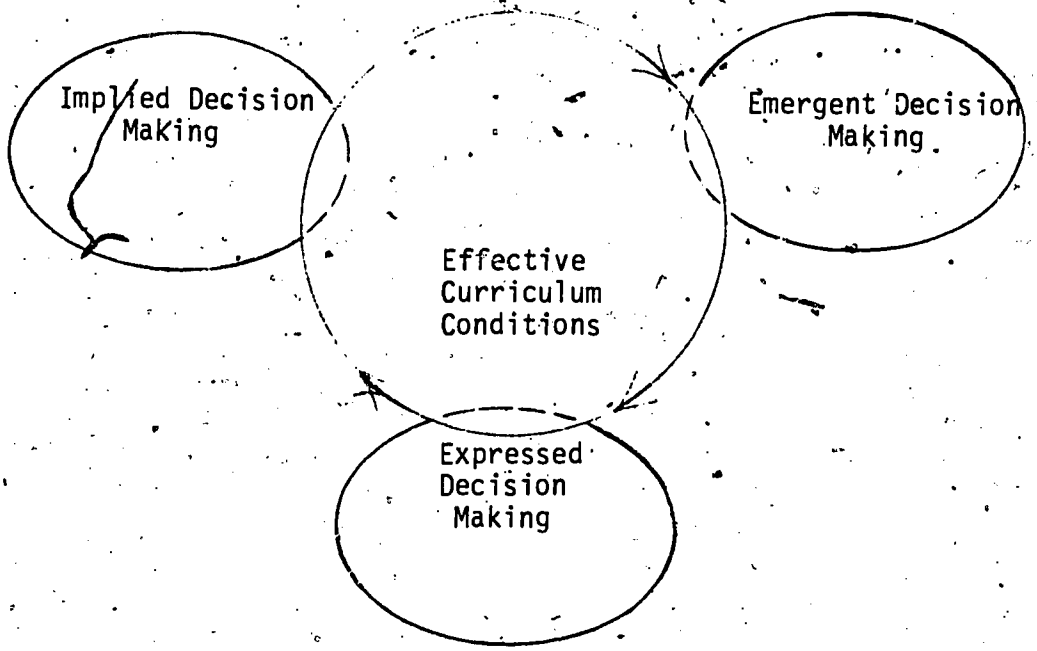
In fact, as critical consciousness of curriculum conditions develops, the functional fitness of emergent solutions becomes easier for the teacher to assess. In other words, the experienced environmentalist teacher, after viewing behavior and considering perceptual data from a learner, can make highly accurate predictions as to the effectiveness of possible curriculum approaches. Since the end of the emergent decision-making system is more effective curriculum conditions, the process of curriculum reconstruction

should be an ongoing series of increasingly accurate emergent decisions concerning ways to increase the match between the learner and curriculum.

In sum, as Figure 4 shows, the three dimensions of curriculum development are designed as inter-related systems each contributing to effective curriculum conditions. The expressed dimension, curriculum's classical starting point, creates the planned learning opportunities that begin the cycle. Once instruction has begun, the implied curriculum becomes increasingly salient, and learner's perceptions are collected in an ongoing monitoring of the fit between students and the curriculum. From this problem (or success) recognition process, emergent curriculum decisions are made to correct or reinforce key curriculum conditions.

FIGURE 4

The Multi-Dimensional Approach To Curriculum Decision Making



Conclusion

Ways of thinking about curriculum are likely to change only when teachers seize existing opportunities for creating productive environments for learning. In this paper, perceptual inquiry is proposed as a missing ingredient to catalyze curriculum dialogue in schools, because a teacher can do something about what he or she learns from student perceptions. Student perceptions of their school environment do not suggest how much something costs, whose authority is being challenged, or how much time improvement will take. Instead, student perceptions tell teachers precisely how the learning environment in their classroom or school is connecting to student needs for growth, challenge and knowledge. When curriculum is viewed through the eyes of students, learning conditions previously accepted as given or unchangeable can be reperceived by teachers who search together for better ways to reconstruct the curriculum. By being receptive to other ways of perceiving and thinking about curriculum, perhaps teachers can develop the will and commitment to reconceptualize their own schools. The present paper advances ways of collecting and using student perceptions, and of thinking about curriculum, that can engage teachers in this important responsibility. Only when teachers, principals and students together take the lead will our schools become better places in which to live and learn.

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3. Cognitive constructivist learning theorists posit the existence of conceptual structures which are progressively constructed by individuals through ongoing interactions with the environment. Such mental structures serve, in Piaget's phrase, as "autoregulative mechanisms," tools for increasingly directing adaptation to environment. See Benjamin Bloom, Stability and Change in Human Characteristics (New York: John Wiley and Sons, Inc., 1964); O. Harvey, D. Hunt and H. Schroder, Conceptual Systems and Personality Organization (New York; John Wiley and Sons, 1961); George Kelly, The Psychology of Personal Constructs, vols. 1 and 2 (New York: W. W. Norton & Co., 1955); Kurt Lewin, Principles of Topological Psychology (New York: McGraw-Hill, 1936); Jean Piaget, The Psychology of Intelligence (London: Routledge, and Kegan Paul, 1950).

4. Educators and theorists differ in the precise terminology they use to define the complex process by which children and adults learn to accurately predict and successfully respond to their continually changing environments. For Kelly and Lewin, people anticipate environmental events using an organizing system of "constructs" built up through experience. Likewise, for Harvey, Hunt and Schroder, individuals constantly evaluate their environments for congruence or incongruence with "concepts" they have developed. For these scholars, then, a conceptual system is an organization structure through which the individual processes information or reads events in the environment.

5. See John Dewey, Human Nature and Conduct (New York: The Modern Library, 1957), part III, for a provocative discussion of the relationship of habits and perceptions. As Dewey notes, it is fallacious to assume that some postulated construct conveniently termed the mind or consciousness (or, as here, the conceptual system) actually performs perceptual and cognitive operations the way a concrete piece of machinery like a computer would add a series of figures. However, Dewey accepts the existence of certain characteristic interactions between a person and an environment that he terms "habits." For him, perception, recollection, foresight and judgment express functions of habits, and are closely related to the continual formation, practice, interruption and reorganization of behavior.

6. Teacher's concerns over marginal learners provide an interesting glimpse of their perception of their role. When they assume they should be equally adequate to the management of all children and problems in the classroom, teachers create many opportunities for themselves to feel personally inadequate. Although the structure of most classrooms makes it impossible to do justice to each child, the persistence of a sense of responsibility for each student leads teachers to the often suppressed conclusion that part of the problem resides in their own inadequacies in knowledge or technique. Again, something is missing, but the existing way of thinking about curriculum makes it seem as if it were someone's fault. When such a conclusion is reached or resisted, decision-making for curriculum improvement is usually stymied by considerable frustration.

7. Henry Murray, Explorations in Personality (New York: Oxford University Press, 1938).

8. Ibid., pp. 115-122.

9. See J. Withall, "The Development of a Technique for the Measurement of the Social Emotional Climate in the Classroom," Journal of Experimental Education 17 (March 1949); Ned Flanders, Teacher Influence, Pupil Attitudes and Achievement (Washington, D.C.: U.S. Department of Health, Education and Welfare, Office of Education, 1965); D. Medley and H. Mitzall, "A Technique for Measuring Classroom Behavior," Journal of Educational Psychology 49 (1958).

10. Benjamin S. Bloom, Human Characteristics and School Learning (New York: McGraw-Hill Book Company, 1976), p. 148

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13. C. Robert Pace and George G. Stern, "An Approach to the Measurement of Psychological Characteristics of College Environments," Journal of Educational Psychology 49 (1958):269-277; C. Robert Pace, "Analysis of a National Sample of College Environments," Final Report, Project No. 5-0764 (Washington, D.C.: U.S. Office of Health, Education and Welfare, Office of Education, Bureau of Research, 1967).

14. See Robert L. Sinclair, "Elementary School Educational Environment: Measurement of Selected Variables of Environmental Press" (Ed.D. dissertation, University of California at Los Angeles, 1968); Alexander B. McKay, "Principals, Teachers, and Elementary Youth: Measurement of Selected Variables of Teacher-Principal Social Interaction and Educational Environment" (Ed.D. dissertation, University of Massachusetts at Amherst, 1971); Robert L. Sinclair and David Sadker, Through the Eyes of Children (Boston: Bureau of Curriculum Services and Institute for Educational Services, 1973); Mark Phillips, "An Exploration of the Relationships between Teacher Conceptual Systems, Student Conceptual Systems, and Educational Environments in Fifth and Sixth Grade Classrooms" (Ed.D. dissertation, University of Massachusetts at Amherst, 1973); John Browne, "An Investigation of Multi-Cultural Press in Elementary Classrooms (Ed.D. dissertation, University of Massachusetts at Amherst, 1975); Jon S. Bender, "The Elementary School Environment: Perceptions of Students and Teachers" (Ed.D. dissertation, University of Massachusetts at Amherst, 1971); Laurence H. Kahn, "The Relationship Between the Extent of Teacher Use of Behavioral Objectives and Selected Variables of the Educational Environment of Elementary Classrooms" (Ed.D. dissertation, University of Massachusetts at Amherst, 1973).

15. It has been suggested that the instruments may lack independence, and may be inappropriate for use today. In particular, the High School Characteristics Index is long (three hundred items and thirty scales) and has been plagued by low reliability. In fact, one study estimated that only 172 items (or 52%) could be considered effective indicators of environmental press in the schools studied. Despite these caveats, the HSCI has been repeatedly used. See Georgianna

A. Lynn, "The Relationship of Students' Personality Structures, Socioeconomic Background, and Program Placement to their Perceptions of the Organizational Characteristics of Select Public High Schools" (Ed.D. dissertation, New York University, 1972); E. L. Herr and H. R. Hight, "H.S.C.I.: A Study of Scale Reliabilities," Journal of Educational Research 60 (March, 1967); J. A. Rees, "An Evaluation of an Instrument for Assessing School Climate," The Journal of Educational Administration 11 (October 1973): 189-194.

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19. Sinclair, Elementary School Educational Environment.

20. Sinclair and Sadker, Through the Eyes of Children.

21. Ward J. Ghory, "Alternative Educational Environments: Marginal Learner Perceptions of Curriculum Conditions in Public Alternative High Schools" (Ed.D. dissertation, University of Massachusetts, 1978).

22. Complete research reports are available elsewhere. For the Massachusetts School Environment Study, consult Jon Bender, "The Elementary School Environment" op.cit.; for the Innovative School Study, consult A. Bruce McKay, "Principal, Teacher, and Elementary Youth" op.cit.; for the Alternative School Environment Study, cf. Ward J. Ghory, "Alternative Educational Environments", ibid.

23. Charles Silberman, Crisis in the Classroom (New York: Random House, 1970).

24. Of course, data on the major differences distinguishing school environments provokes thinking along the same lines.

25. Andrew Halpin and Donald Croft, The Organizational Climate of Schools (Chicago: Midwest Administration Center, 1963).

26. For a more detailed description of this curriculum development model, see Robert L. Sinclair and Ward J. Ghory, "Curriculum as Environments for Learning: A Practical Meaning and Model", a paper delivered at the Annual Meeting of the American Educational Research Association in San Francisco, April, 1979.

27. Our use of the term "platform" is similar to Decker Walker's interpretation in his paper: Decker Walker, "The Process of Curriculum Development: A Naturalistic Model" in School Review, vol. 80, #1, November 1971.

28. John Dewey, Logic: The Theory of Inquiry (New York: Henry Holt and Co., 1938) p. 105.

29. Ibid., p. 109.

APPENDIX A

THE ELEMENTARY SCHOOL ENVIRONMENT SURVEY (ESES)

AND

THE ALTERNATIVE SCHOOL ENVIRONMENT SURVEY (ASES)

PLEASE NOTE:

A specimen set of the Elementary School Environment Survey and the Alternative School Environment Survey is available upon request. Also, an agreement for permission to use the instruments is necessary and can be obtained by contacting:

Dr. Robert L. Sinclair
Professor of Education
School of Education
University of Massachusetts
Amherst, MA 01003

APPENDIX B

SAMPLE SCHOOL REPORT

STUDY OF SELECTED ALTERNATIVE LEARNING ENVIRONMENTS

Summary Report

For

Prepared

By

Ward J. Ghory, Director
Alternative Learning
Environment Study

and

Robert L. Sinclair
Associate Professor of
Curriculum and Instruction

CENTER FOR CURRICULUM STUDIES

UNIVERSITY OF MASSACHUSETTS

AT

AMHERST

STUDY OF SELECTED LEARNING ENVIRONMENTS

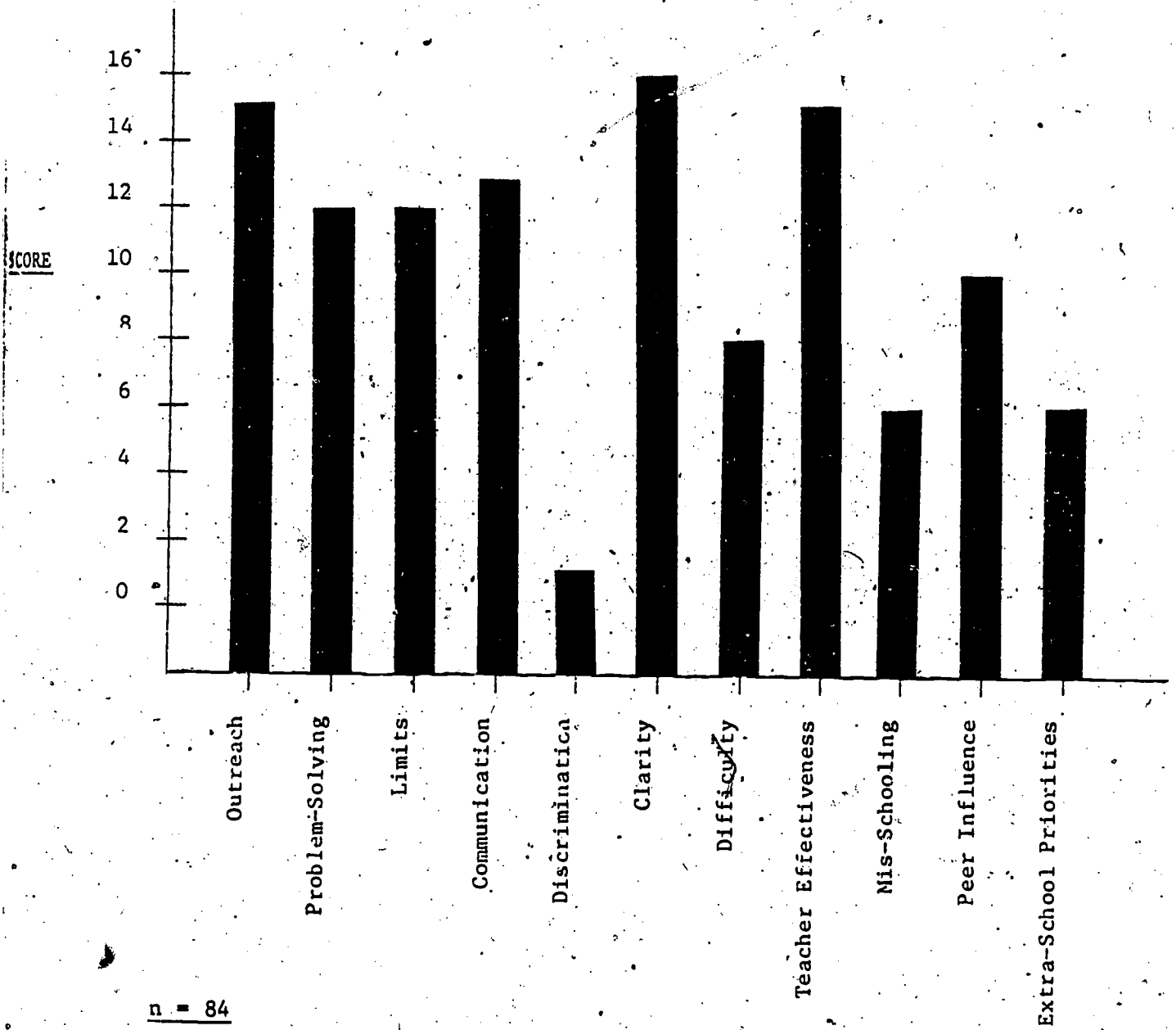
This report summarizes the views of students from your school who responded to the Alternative School Environment Survey (ASES), a survey of student perceptions toward alternative school programs. One major purpose of this survey is to collect the perceptions of learners who were not considered to be fully involved in the program. The views of those learners considered to be on the margins of the educational environment were compared to the views of students who were thought to be more involved and engaged with the school. When answering the survey questions, all students reported on the presence or absence of eleven selected variables which are likely to influence involvement in the school environment.

Please note that there are no right or wrong answers to the survey questions. As in public opinion polling theory, this survey tells you how the students who live and learn in the school view the learning environment. In other words, we are not judging if your school setting is good or bad. Rather, we are simply reporting what the perceptions of students were toward selected dimensions of the educational environment in your school. As you know, we believe that environment is a powerful influence on human behavior and we think that it is the student's perception of the environment that will or will not assist that individual in accomplishing desired learning. It is for this reason that we are interested in the school as seen through the eyes of learners.

This report is divided into four sections. First, a bar graph represents the scores of all learners on each variable. Some comments that might be useful to you in interpreting this graph are then presented. These comments can be used as possible reference points for discussions among your staff and students about ways to make the environment even more responsive. Second, the views of learners on the margins of the school are compared with the views of other learners in the school. These data might help to provide some insight into why some students are not more involved. Third, definitions of the variables are provided to aid you in interpreting and discussing this information. Finally, a computer print-out for your school provides an item-by-item analysis of student perceptions toward the environment.

SCHOOL 21

VARIABLE SCORES FOR ALL STUDENTS



n = 84

VARIABLES

Student Perceptions

- Students report that this school makes special efforts to help them learn (Outreach). In particular, they view their teachers as relatively effective at encouraging them to learn. For example, 93% of the students indicated that their teachers paid attention to them when the students needed help (Teacher Effectiveness).

- This school is viewed as moderately effective at resolving its organizational and student problems (Problem-Solving). For example, 25% of the students agreed with the statement, "The teachers who work with me most do not really help me with my school problems." Although nearly 75% of the students thought the school was good at solving its own problems, only 40% of the students felt that the school had solved most of its problems. In particular, discrimination is viewed as a minor problem in the current environment. For example, 37% of the students report that they do not get along well with students from a different race (Discrimination).

- Academic expectations and standards are clear to students in this school (Clarity). For example, 87% of the students agree that they know exactly what they have to do to earn credit. In addition, the school is viewed as only moderately difficult or challenging by students. Nearly half the students report that, overall, their classes are easy, and 30% of the students said that their classes didn't move quickly enough for them (Difficulty).

- Communication processes designed to provide information needed by students are viewed as relatively effective (Communication). For example, 83% of the students agree that there are clear ways for getting questions answered at this school. However, only 50% of the students said that they received the information they needed through meetings with their teachers.

- School policies defining what students are permitted to do when not in class are viewed as relatively clear by students. For example, almost 80% of the students were aware of specific rules that they must obey. However, two-thirds of the students said nothing serious would happen if they cut a class (Limits).

- Students feel moderately handicapped by previous academic deficiencies (Mis-Schooling). While 8% reported serious reading and writing weaknesses, 37% reported math deficiencies stemming from previous schools. Responsibilities and difficulties from outside the school (Extra-School Priorities) are also seen as interfering with school work. For example, 37% of the students reported that "many things outside school interfere with my school work."

- Student peer groups sometimes encourage and sometimes discourage involvement in learning (Peer Influence). While more than two-thirds

of the students agree that their friends encourage them to go to class and do well in school, nearly 80% of the students have skipped class with friends. Further, two-thirds of the students report a difference between what the school wants them to do and what their friends want them to do.

School 21

LEARNERS ON THE MARGINS COMPARED WITH OTHER STUDENTS

This section reports on scores showing differences among both groups of students. Also, specific survey items perceived differently by both groups are listed.

Variables Showing Greatest Difference of Views

Variable	Score For Marginal Learners	Score For Non-Marginal Learners
Problem Solving	9	13
Communication	11	14
Clarity	13	16
Peer Influence	7	10

Items Showing Greatest Difference of Views

The percent of students who are marginal to the environment (M) who answered in a keyed direction is reported along with the percent of Non-Marginal (NM) students who answered in the same way. A comparison between these two scores shows the differences in perception between the two groups of students. The answer key is T = True; F = False.

	VARIABLE	KEY	M	NM
Problem Solving				
44)	I think this school is good at solving its own problems.	T	54%	79%
1)	The teachers who work with me most do not really help me with my school problems.	F	62%	79%
14)	At this school, we have meetings which actually solve school problems.	T	39%	54%
Communication				
28)	If I did not go to a meeting for all the students, I would miss a lot.	T	25%	45%
24)	There are clear ways of getting questions answered at this school.	T	69%	85%
11)	Large meetings are pretty confusing here.	F	54%	69%

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	VARIABLE	KEY	M	NM
arity				
12)	I'm still not sure how to change my class schedule.	F	62%	85%
74)	When I was a new student, it took a long time to learn how to make a schedule and get credit at this school.	F	58%	75%
7)	I'm not sure if it is really OK to miss a class.	F	54%	69%
er Influence				
35)	I might do better in school if I went around with a different group.	F	58%	89%
85)	I get into trouble at school when I do whay my friends want to do.	F	58%	86%
58)	There's a difference between what the school says we should do and what my friends and I really want to do.	F	23%	35%

These eleven variables likely to influence a learner's interactions with alternative school environments have been identified through a review of the literature, and through practical experience with alternative school environments. Further, the variables have been screened for validity and reliability by panels of teachers, administrators, curriculum specialists, and pupils. In this description each variable is named and briefly defined. Assumptions underlying each variable that are related to the problem of marginal learners are then advanced.

Variable Descriptor	Variable Definition	Assumptions
1. "OUTREACH"	This variable describes the degree to which the school makes special efforts to involve a pupil in learning.	In part some students may be disconnected from school environments because few affirmative actions are being taken to reach them in either formal, personal or curricular ways.
2. "PROBLEM-SOLVING"	This variable considers the school's ability to resolve its own problems as an organization, as well as the school-related problems of its individual members.	In part some students may be disconnected from school environments because the school is unable to define and solve its problems. In addition, it is assumed that the school capable of solving its organizational problems is better able to help individual members of the school with their school-related difficulties.
3. "LIMITS"	This variable describes the nature of the norms for acceptable personal conduct in a school.	In part some students may be disconnected from school environments because the limits for acceptable personal conduct are not defined clearly or upheld consistently. In addition, it is assumed that student participation in determining such limits promotes increased clarity and more consistent enforcement.
4. "COMMUNICATION"	This variable determines the effectiveness of processes designed to provide information necessary to fully satisfying involvement in school.	In part some students may be disconnected from school environments because existing school counseling, decision-making and orientation processes do not consistently reach them with the necessary information and assistance they need to avoid difficulties in school.
5. "DISCRIMINATION"	This variable describes school conditions where individuals or groups receive negative treatment from people who respond unfavorably to a person's social class, cultural background gender or verbal ability level.	In part some students may be disconnected from school environments because they are discriminated against by other students or by teachers.

Variable Descriptor	Variable Definition	Assumptions
6. "CLARITY"	This variable considers the clarity of academic expectations and standards.	In part some students may be disconnected from school environments because they do not know clearly what is expected from them.
7. "DIFFICULTY"	This variable determines the difficulty of the academic content and process.	In part some students may be disconnected from their school environments because the formal processes and content of their academic work are too difficult for them.
8. "TEACHER EFFECTIVENESS"	This variable describes how effectively the alternative school teachers encourage involvement in learning.	It is assumed that teacher-student relationships in alternative schools tend to be more informal, more friendly, more open to criticism, less time-bound, and less authoritarian than teacher-student relationships in traditional high school programs. In addition, it is assumed that some students may be disconnected from school environments because this style of teacher-student relations does not effectively serve their needs.
9. "MIS-SCHOOLING"	This variable considers how a learner's previous experiences in school influence his or her current involvement and success in learning.	In part some learners may be disconnected from school environments because their lack of skills and information, as well as their previous habits of poor academic and disciplinary performance, lead them to withdraw from the current environment.
10. "PEER INFLUENCE"	This variable describes how peer group pressures influence involvement in school.	In part some learners may be disconnected from school environments because they are susceptible to the influence of friends who urge them to act contrary to school expectations.
11. "EXTRA-SCHOOL PRIORITIES"	This variable considers how responsibilities and difficulties outside of school influence involvement in learning.	In part some students may be disconnected from school environments because personal/social difficulties and responsibilities from outside the school conflict with and prevent full involvement with the school.